



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/684,615  | 10/14/2003  | Richard J. Santiago  | 10886.00715         | 4220             |
| 22908   | 7590        | 02/18/2005           | EXAMINER            |                  |
| BANNER & WITCOFF, LTD.<br>TEN SOUTH WACKER DRIVE<br>SUITE 3000<br>CHICAGO, IL 60606 |             |                      |                     | CHIANG, JACK     |
|   |             | ART UNIT             |                     | PAPER NUMBER     |
|   |             | 2642                 |                     |                  |

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                      |
|------------------------------|------------------------|----------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>  |
|                              | 10/684,615             | SANTIAGO, RICHARD J. |
|                              | <b>Examiner</b>        | <b>Art Unit</b>      |
|                              | Jack Chiang            | 2642                 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 October 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-31 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-31 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DRAWINGS**

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "... microphone cartridges placed back to back..." called for in claim 26 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

## CLAIMS

### **112 First Paragraph Rejection**

2. Claims 26-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 26, it recites that "... microphone cartridges placed back to back...". The disclosure lacks clear description on how this arrangement can be achieved because the microphone cartridges and their mounting are pre-arranged in a specific mounting according to the description of Fig. 3.

### **Art Rejection**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8, 10-12, 14-19, 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrea et al. (US 6061456).

Regarding claim 1, Andrea shows a dual cartridge microphone comprising:

A printed circuit board (78);  
A directional microphone cartridge (12) (col. 7, lines 38-39);  
An omni-directional microphone cartridge (14) (col. 7, lines 38-39);  
A housing (72, 74) for enclosing the board (78) and the microphone cartridges (12, 14).

Regarding claim 12, Andrea shows a dual cartridge microphone comprising:

A housing (72, 74; 100) having a base portion (74, see 176) and a grille portion (opening for microphones, see area of 146);  
A directional microphone cartridge (12) (col. 7, lines 38-39) which generates a first signal responsive to speech;  
An omni-directional microphone cartridge (14) (col. 7, lines 38-39) which generates a second signal responsive to ambient noise;  
A printed circuit board (78) including filtering and protection circuits (figs. 4-5) coupled to the first signal (see 12) to generate a speech signal and coupled to the second signal (see 14) to generate a noise signal.

Regarding claim 19, Andrea shows a dual cartridge microphone comprising:

A housing (72, 74; 100) having a base portion (74, see 176) and a grille portion (opening for microphones, see area of 146);  
A directional microphone cartridge (12) (col. 7, lines 38-39) which generates a first signal responsive to speech;

Art Unit: 2642

An omni-directional microphone cartridge (14) (col. 7, lines 38-39) which generates a second signal responsive to ambient noise;

A printed circuit board (78) including filtering and protection circuits (figs. 4-5) coupled to the first signal (see 12) to generate a speech signal and coupled to the second signal (see 14) to generate a noise signal.

Regarding claim 26, as best understood, Andrea shows a dual cartridge microphone comprising:

A printed circuit board (78);

A first directional microphone cartridge (12) (col. 7, lines 38-39) which generates a first signal;

A second directional microphone cartridge (14) (col. 7, lines 38-39) which generates a second signal, the microphone cartridges are placed substantially "back-to-back";

A housing (72, 74) for enclosing the board (78) and the microphone cartridges (12, 14).

Regarding claim 28, Andrea shows a dual cartridge microphone comprising:

A printed circuit board (78);

A bi-directional microphone cartridge (12) (col. 3, lines 42-44, col. 7, lines 38-39) which generates a first signal;

A second directional microphone cartridge (14) (col. 3, lines 42-44, col. 7, lines 38-39) which generates a second signal;

A housing (72, 74) for enclosing the board (78) and the microphone cartridges (12, 14).

Regarding claims 2-8, 10-11, 14-18, 27, 29, Andrea shows:

A first preamplifier (i.e. 910) and the result of a band pass filter (figs. 13a, 13b, col. 26, line 60, see also TABLE in col. 27);

A second preamplifier (i.e. 912);

The summing of the signals (i.e. 914);

A directional microphone cartridge (12) (col. 7, lines 38-39) which generates a first signal responsive to speech;

An omni-directional microphone cartridge (14) (col. 7, lines 38-39) which generates a second signal responsive to ambient noise;

The grille (opening for microphones, see area of 146);

A cardioid polar pattern and an omni-directional polar pattern (col. 3, lines 54-57);

Windscreen (i.e. 146).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew.

Regarding claims 20-25, Andrew shows the applications of the microphone in various environments (col. 2, lines 23-47).

Art Unit: 2642

Andrew differs from the claimed invention in that it does not explicitly mention about the use of the microphone in a vehicle, such as the steering wheel, rear view mirror etc..

However, the concept of applying Andrew's microphone in various environments is well taught by Andrew. Further, from various locations of the microphone mounting called for in the present application, it can also be seen that there is no teaching of criticality for one application over another, such as mounting the microphone on the steering wheel or the instrument panel.

Therefore, it would have been obvious for one of ordinary skill in the art to use Andrew in the vehicle environment, and mounting the microphone in the instrument panel, the steering wheel, or the rear view mirror etc. having been commonly done in a hands free phone operation. This simply can be considered as an intended use of Andrew as long as the basic concept of the microphone operation is substantially unchanged as it is used in such environment.

7. Claims 9, 13, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrew in view of Oku (US 5144656).

Regarding claims 9, 13, 30-31, Andrew shows the microphone.

Andrew differs from the claimed invention in that it does not show a socket and a wire harness.

However, it is commonly seen that microphone housing having a socket, this is taught by Oku, such as the socket (19) and wire harness (13) in Oku.

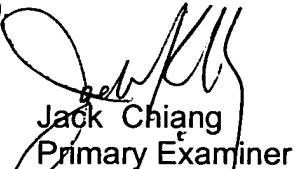
Art Unit: 2642

Hence, it would have been obvious for one of ordinary skill in the art to modify Andrew with a socket and a wire harness as taught by Oku, this sometimes can be considered as a conventional feature for microphone because it allows the microphone to be connected with other electronic devices (col. 4, lines 19-21 in Oku).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Chiang whose telephone number is 703-305-4728. The examiner can normally be reached on Mon.-Fri. from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 703-305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jack Chiang  
Primary Examiner  
Art Unit 2642